

367.40892X00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): LINDHOLM, Christian  
Serial No.: Not yet assigned  
Filed: November 21, 2001  
Title: AN ACCESSORY FOR A COMMUNICATION TERMINAL  
Group: Not yet assigned



LETTER CLAIMING RIGHT OF PRIORITY

Honorable Commissioner of  
Patents and Trademarks  
Washington, D.C. 20231

November 21, 2001

Sir:

Under the provisions of 35 USC 119 and 37 CFR 1.55, the applicant(s) hereby claim(s) the right of priority based on United Kingdom Patent Application No.(s) 0029275.5, filed November 30, 2000.

A certified copy of said United Kingdom Application is attached.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

  
\_\_\_\_\_  
Carl I. Brundidge  
Registration No. 29,621

CIB/alb  
Attachment  
(703) 312-6600

**THIS PAGE BLANK (USPTO)**



INVESTOR IN PEOPLE

**Application No:** GB 0029275.5  
**Claims searched:** 1-5

**Examiner:** Eleanor Thurston  
**Date of search:** 29 June 2001

## Patents Act 1977 Search Report under Section 17

### Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:  
UK Cl (Ed.S): H4J (JL). H3Q (QAX, QACX)  
Int Cl (Ed.7): H04B 1/08, 1/38. H04M 1/05, 1/06, 1/60. H04R 1/10.  
Other: Online: EPODOC, WPI, PAJ.

### Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X, Y	US 5701356 A (STANFORD et al) see figure 8 and col. 10 lines 9-19.	X: 1
Y	US 5677948 A (MEISTER) see abstract and figures 1 & 2.	
Y	US 4993065 A (CHIOU) see abstract and figure 4.	1, 2 & 5.
X, Y	WO 00/54422 A1 (PARK) see abstract and figures 4-6.	X: 1
Y	JP 2000316626 A (YAMASHITA) see abstract and figures 1 & 2.	
X, Y	JP 110178081 A (SONY) see abstract and figures 1 & 12.	X: 1
Y	JP 100304037 A (SONY) see abstract and figures.	
X, Y	JP 090127431 A (OLYMPUS) see abstract and figures (especially 1 & 4).	X: 1

X Document indicating lack of novelty or inventive step  
Y Document indicating lack of inventive step if combined with one or more other documents of same category.  
& Member of the same patent family

A Document indicating technological background and/or state of the art.  
P Document published on or after the declared priority date but before the filing date of this invention.  
E Patent document published on or after, but with priority date earlier than, the filing date of this application.

*This Page Blank (uspto)*



INVESTOR IN PEOPLE

The Patent Office  
Concept House  
Cardiff Road  
Newport  
South Wales  
NP10 8QQ



I, the undersigned, being an officer duly authorised in accordance with Section 74(1) and (4) of the Deregulation & Contracting Out Act 1994, to sign and issue certificates on behalf of the Comptroller-General, hereby certify that annexed hereto is a true copy of the documents as originally filed in connection with the patent application identified therein.

In accordance with the Patents (Companies Re-registration) Rules 1982, if a company named in this certificate and any accompanying documents has re-registered under the Companies Act 1980 with the same name as that with which it was registered immediately before re-registration save for the substitution as, or inclusion as, the last part of the name of the words "public limited company" or their equivalents in Welsh, references to the name of the company in this certificate and any accompanying documents shall be treated as references to the name with which it is so re-registered.

In accordance with the rules, the words "public limited company" may be replaced by p.l.c., plc, P.L.C. or PLC.

Re-registration under the Companies Act does not constitute a new legal entity but merely subjects the company to certain additional company law rules.

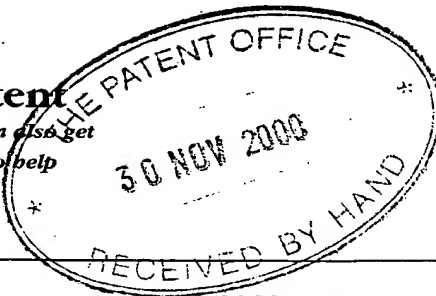
Signed 

Dated 2 November 2001

**THIS PAGE BLANK (USPIC)**

# Request for grant of a patent

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)



The Patent Office

Cardiff Road  
Newport  
Gwent NP9 1RH

1. Your reference

PAT 00322 GB

2. Patent application number

(The Patent Office will fill in this part)

**0029275.5**

30 NOV 2000

3. Full name, address and postcode of the or of each applicant (*underline all surnames*)

NOKIA MOBILE PHONES LIMITED  
KEILALAHDENTIE 4  
02150 ESPOO  
FINLAND

Patents ADP number (*if you know it*)

If the applicant is a corporate body, give the country/state of its incorporation

FINLAND

5911995004

4. Title of the invention

AN ACCESSORY FOR A COMMUNICATION TERMINAL

5. Name of your agent (*if you have one*)

"Address for service" in the United Kingdom to which all correspondence should be sent (*including the postcode*)

NOKIA IPR DEPARTMENT  
NOKIA HOUSE  
SUMMIT AVENUE  
FARNBOROUGH  
HAMPSHIRE  
GU14ONG UK

Patents ADP number (*if you know it*)

7577638001

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (*if you know it*) the or each application number

Country

Priority application number  
(*if you know it*)

Date of filing  
(*day / month / year*)

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing  
(*day / month / year*)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (*Answer 'Yes' if:*

- a) any applicant named in part 3 is not an inventor, or
  - b) there is an inventor who is not named as an applicant, or
  - c) any named applicant is a corporate body.
- See note (d))

**Patents Form 1/77**

9. Enter the number of sheets for any of the following items you are filing with this form.  
Do not count copies of the same document

Continuation sheets of this form

Description	5
Claim(s)	1
Abstract	1
Drawing(s)	3+3 16

10. If you are also filing any of the following, state how many against each item.

Priority documents

Translations of priority documents

Statement of inventorship and right to grant of a patent (*Patents Form 7/77*)

Request for preliminary examination and search (*Patents Form 9/77*) 1

Request for substantive examination (*Patents Form 10/77*)

Any other documents  
(please specify)

11. I/We request the grant of a patent on the basis of this application.

Signature

HELEN HAWS

Date

24.11.2000

12. Name and daytime telephone number of person to contact in the United Kingdom

Mr E Davies 01252 865390

**Warning**

*After an application for a patent has been filed, the Comptroller of the Patent Office will consider whether publication or communication of the invention should be prohibited or restricted under Section 22 of the Patents Act 1977. You will be informed if it is necessary to prohibit or restrict your invention in this way. Furthermore, if you live in the United Kingdom, Section 23 of the Patents Act 1977 stops you from applying for a patent abroad without first getting written permission from the Patent Office unless an application has been filed at least 6 weeks beforehand in the United Kingdom for a patent for the same invention and either no direction prohibiting publication or communication has been given, or any such direction has been revoked.*

**Notes**

- If you need help to fill in this form or you have any questions, please contact the Patent Office on 0645 500505.
- Write your answers in capital letters using black ink or you may type them.
- If there is not enough space for all the relevant details on any part of this form, please continue on a separate sheet of paper and write "see continuation sheet" in the relevant part(s). Any continuation sheet should be attached to this form.
- If you have answered 'Yes' Patents Form 7/77 will need to be filed.
- Once you have filled in the form you must remember to sign and date it.
- For details of the fee and ways to pay please contact the Patent Office.



**An accessory for a communication terminal.**

5 The invention relates an accessory for a communication terminal, e.g. hand-portable phone.

During the past years, cellular terminals have become more and more popular among users. These terminals have become smaller and smaller, and for instance the most popular phones will have a weight in the region of 100-150  
10 grams. The use of headsets is in general used for allowing the user to keep his hands free during a telephone conversation. Traditionally these headsets are connected to the cellular terminals via a set of wires. However during the past there has been a focus on headsets being connected to a cellular terminal via a low power RF connection, e.g. Bluetooth™. However this  
15 requires an extra battery in the headset because the cellular terminal usually powers the headset unit.

According to a first aspect of the invention there is provided an audio accessory including a neck strap having an attachment device for attaching an  
20 audio source to the neck strap, whereby the audio source may be carried in said neck strap during normal use, at least one earplug to be connected to said audio source through a set of wires to be connected to said audio source, and gripping means for attaching said earplug wires to said neck strap. Hereby the headset remains connected to the phone. The user carries the phone in said  
25 neck strap and when he removes the earplug from his ear, the earplug is maintained in a position close to the neck of the user so the earplug is easy to find when an incoming call occurs.

According to the preferred embodiment of the invention the accessory includes  
30 catching means connected to said neck strap for catching a free end of the earplug wire carrying said at least one earplug when removed from the ear. The

catching means includes preferably a permanent magnet mounted on said neck strap. Hereby the magnet will catch the earplug when the plug is removed from the ear.

- 5 Preferably the magnet is mounted at a distance from the gripping means corresponding to a free end of the earpiece wire from the gripping means. Hereby the free end will be kept almost in parallel to the corresponding part of the neck strap.
- 10 If the audio accessory includes two earplugs for providing a stereophonic audio signal, the neck strap comprises gripping means for each of the two earplug wires to said neck strap, and catching means connected to said neck strap for catching each free end of the earpiece wire carrying the respective earplugs.
- 15 For a better understanding of the present invention and to understand how the same may be brought into effect reference will now be made by way of example only to the accompanying drawings in which: -

#### **Brief Description of the Drawing**

- 20 Fig. 1 illustrates a preferred embodiment of an audio accessory for a communication terminal according to the invention.

Fig. 2 illustrates an alternative embodiment of an audio accessory for a communication terminal according to the invention.

25

Fig. 3 shows in perspective the gripping means shown in fig. 1 and 2.

Fig. 4 shows in perspective the attachment device shown in fig. 1 and 2.

- 30 **Detailed Description of Embodiments**

Fig. 2 shows a preferred embodiment of an audio accessory according to the invention. The audio accessory according to the invention will according to the preferred embodiment be explained with reference to a cellular phone 1 forming an audio source. A neck strap 7 is attached to the phone 1 by means of a  
5    releasable lock fitting 8 engaging in an eyelet 9 integrated in the housing of the phone 1. An attachment device 6 has a function to attach the neck strap 7 to a set of wires 3 connecting an earplug 5 to the phone 1 forming the audio source. The attachment device 6 may advantageously ensure that neither the neck strap 7 nor the set of wires 3 slides in the attachment device 6 in relation to  
10   each other.

When the cellular phone 1 is attached to the neck strap 7, the cellular phone 1 may be carried in said neck strap 7 around the neck of the user during normal use. An earplug 5 terminates the set of wires 3 and the set of wires 3 is in the  
15   opposite end connected to the cellular phone 1 via a male connector 2 plugged into a female connector being provided in the bottom of the cellular phone 1.

The set of wires 3 is provided with a microphone body 4 having an operation button 11. When an incoming call is detected and the phone alerts the user, the  
20   user may respond to the call by pressing the operation button 11. Furthermore the operation button 11 may in idle mode and the phone be used for initiating a voice control application in the phone.

On the neck strap 7 there is provided gripping means 10 for catching earplug 5  
25   when removed from the ear. If the user has removed the earplug 5 from his ear and he still carries the phone 1 with the neck strap around his neck, user may respond an incoming call by pressing the operation button 11 and place the earplug 5 in the ear. The part of the earplug 5 to be inserted into the ear of the user is covered by foamed rubber cover 19. The user will by means of the  
30   invention always be able to respond to the call and place the earplug 5 in one movement. The invention offers the user a fast and efficient handling of a wired headset.

Above the audio source has been explained as a cellular phone 1, but the audio source may be constituted by any kind of communication terminal providing an audio signal, that may be played for the user via a headset. The audio source  
 5 may also include music and broadcast sources, as CD player, FM radios, etc.

The phone 1 comprises a keypad, a display, and internal speaker, and microphone. According to the preferred embodiment the phone 1 is adapted for communication via a cellular network, such as the GSM 900/1800 MHz  
 10 network. The two mating connector parts may be provided with an interface corresponding to the Nokia 3310 phone and the corresponding HDC-5 headset – both available on the market. The phone 1 and the audio accessory will normally have a total weight of 200 grams

15 The neck strap 7 is provided in a flexible and light material, e.g. as a soft nylon webbing, as a weaved string, or even as a metal ball chain. The set of wires 3 includes according to the preferred embodiment a two-wire lead supplying the audio signal from the phone 1 to the earplug 5, and furthermore a further two-wire lead carrying the microphone signal from the microphone body 4 to the  
 20 phone 1 and dealing with the signaling provided by pressing the operation button 11.

The length  $L_2$  of the set of wires 3 between the earplug 5 and the attachment device 6 is slightly greater than the length  $L_1$  of the neck strap 7 between the  
 25 attachment device 6 and the gripping means 10, so the gripping means 10 preferably including a permanent magnet may catch the earplug 5 including a metallic transducers. The metallic transducer and thereby the earplug will be attached by the magnet of the attachment device 10. Preferably the distance ( $L_2$  plus  $L_3$ ) between the center of the earplug 5 and the center of the microphone  
 30 body 4 will be 12-16 cm, while the length  $L_2$  will be 7-12 cm and the length  $L_1$  will be 6-11 cm.  $L_3$  will then be 4-7 cm.

According to a further embodiment of the invention the eyelet 9 may be provided in the bottom of the phone 1 close to the connector 2 whereby the overall length of the earplug set of wire 3 may be reduced.

- 5 If the audio source is able to provide a stereo audio signal, when the phone 1 includes e.g. an integrated MP3 player or an FM radio, the audio accessory will include two earplug 5, two attachment device 6, and two gripping means 10 for gripping the earplugs when removed from the ear. This is shown in fig. 2. The parts having the same reference number as in fig. 1 also serves the same  
10 function.

Fig. 3 shows the gripping means 10 including a disc shaped permanent magnet 15 embedded into a cover 16 from which an integrated part 17 protrudes. The protruding part 17 has a through-going bore 18 through which the neck strap  
15 passes. The gripping means 10 is provided as an appropriate resin, e.g. polyethylene, and is fixed from sliding along the neck strap by providing an appropriate glue in the bore 18.

Fig. 4 shows in perspective the attachment device 6. According to the preferred  
20 embodiment of the invention the attachment device 6 has two identical half parts 12 and 13, and when the attachment device 6 is assembled the two through going bores will be occupied by the set of wires 3 and the neck strap 7, respectively. Advantageously the two half parts 12 and 13 are provided in an appropriate resin, e.g. polyethylene, and glued or adhered together by e.g.  
25 supersonic welding.

The present invention includes any novel feature or combination of features disclosed herein either explicitly or any generalisation thereof irrespective of whether or not it relates to the claimed invention or mitigates any or all of the  
30 problems addressed.

**CLAIMS**

1. An audio accessory including
  - a neck strap having an attachment device for attaching an audio source to the neck strap, whereby the audio source may be carried in said neck strap during normal use;
  - at least one earplug to be connected to said audio source through a set of wires to be connected to said audio source; and
  - gripping means for attaching said earplug wires to said neck strap.
2. An audio accessory according to claim 1, wherein said accessory includes catching means connected to said neck strap for catching a free end of the earpiece wire carrying said least one earplug when removed from the ear.
3. An audio accessory according to claim 2, wherein said catching means includes at least one permanent magnet mounted on said neck strap.
4. An audio accessory according to claim 3, wherein said at least one magnet mounted on said neck strap is mounted at a distance from the gripping means corresponding to a free end of the earpiece wire from the gripping means.
5. An audio accessory according to claim 1, wherein the neck strap comprises gripping means for each of two earplug wires to said neck strap, and catching means connected to said neck strap for catching each free end of the earpiece wire carrying respective earplugs.
6. An audio accessory substantially as hereinbefore described with reference to the accompanying drawings.

**ABSTRACT**

An audio accessory includes a neck strap having an attachment device for attaching an audio source to the neck strap, whereby the audio source may be carried in said neck strap during normal use. At least one earplug is connected to the audio source through a set of wires to be connected to said audio source, and the neck strap has gripping means for attaching the earplug wires to said neck strap.

10 Fig. 1

**THIS PAGE BLANK (USPTO)**



1

2

3

4

5

6

7

8

9

10

11

19

$L_1$

$L_2$

$L_3$

F

**Fig. 1**

**THIS PAGE BLANK (USPTO)**

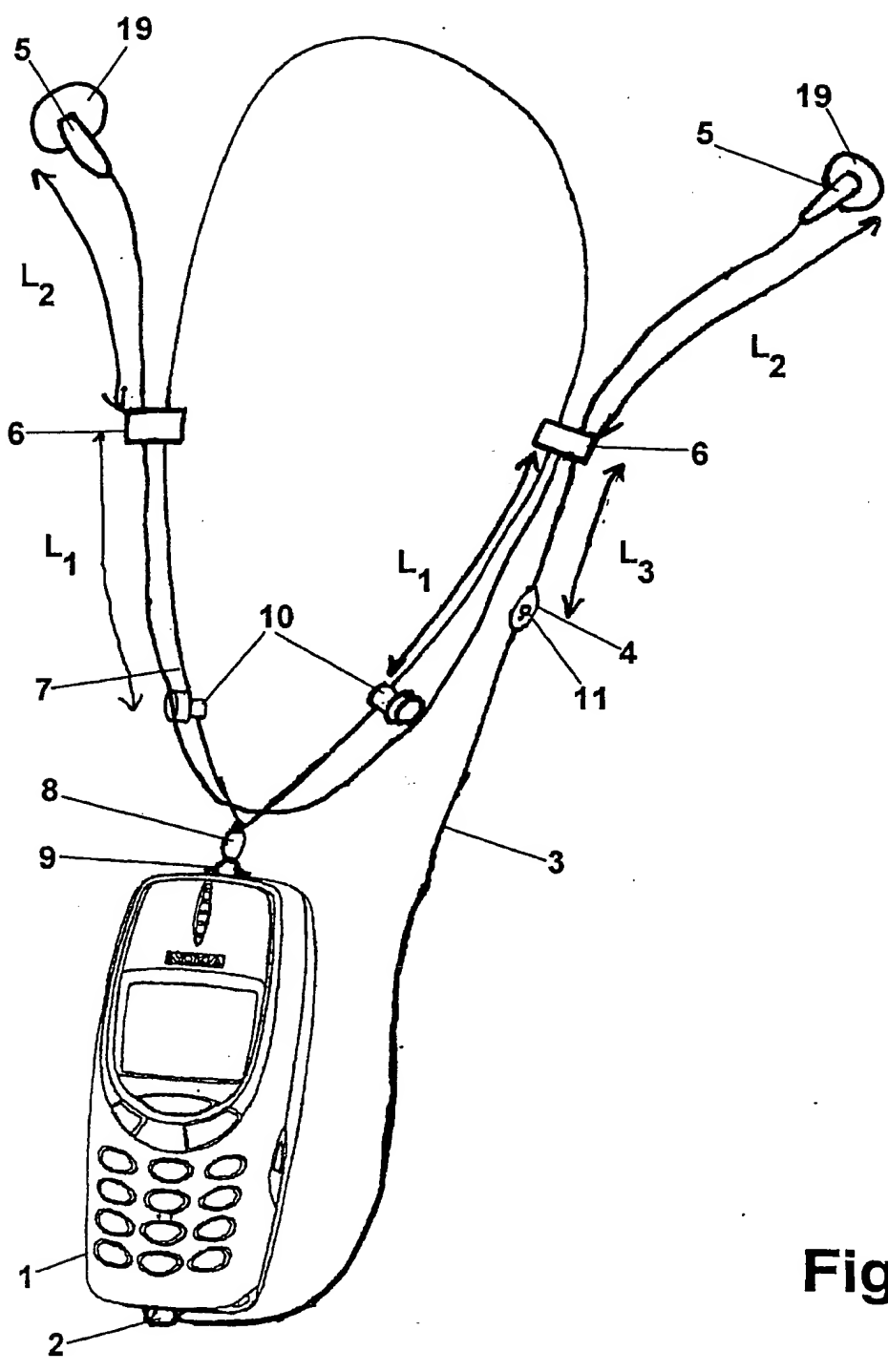


Fig. 2

**THIS PAGE BLANK (USPTO)**

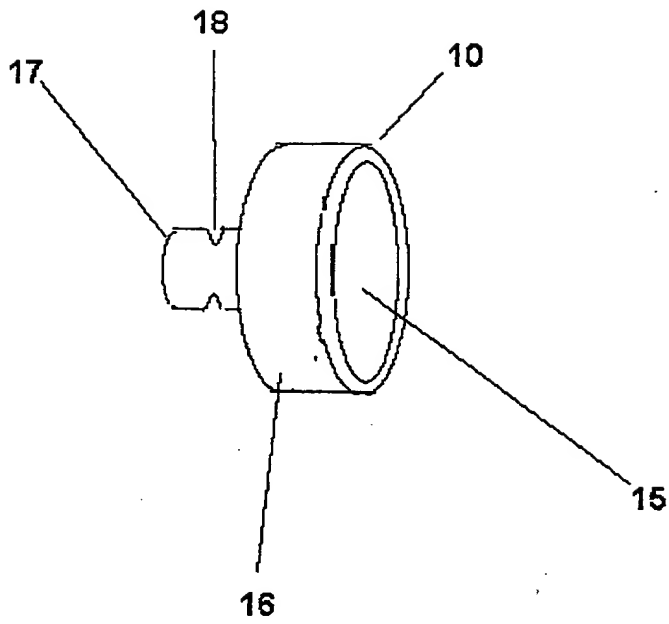


Fig. 3

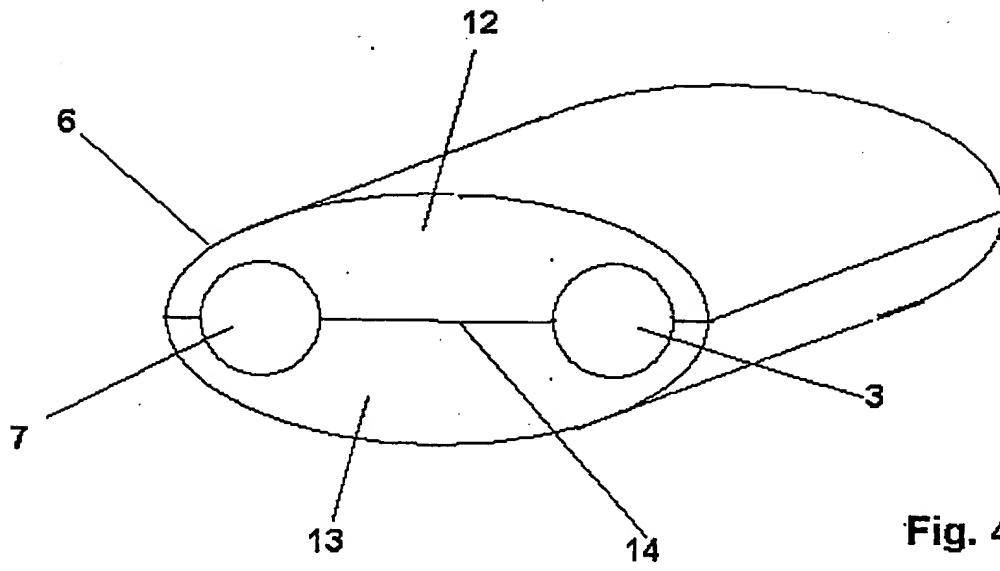


Fig. 4

**THIS PAGE BLANK (USPTO)**